STATE OF NEW HAMPSHIRE
INTER-DEPARTMENT COMMUNICATION

DATE: October 28, 2019

FROM: Andrew O'Sullivan
Wetlands Program Manager

AT (OFFICE): Department of Transportation
Bureau of Environment

SUBJECT Dredge & Fill Application
Newmarket, 2019-1909
Emergency Follow-up (DES#2019-1909)

TO Craig Rennie
New Hampshire Wetlands Bureau
29 Hazen Drive, P.O. Box 95
Concord, NH 03302-0095

Forwarded herewith is the emergency follow-up application package prepared by NH DOT District 6 for the subject major impact project. This project is classified as major per Env-Wt 303.02(p). The project is located on Grant Road in the Town of Newmarket, NH. The proposed work consists of removing the 10LF of 48" CMP and to replace it with 10LF of 24" HDPE to match the size of the existing crossing under the road so as to prevent debris build up at the joint.

This project was not reviewed at the Natural Resource Agency Coordination Meeting due to the nature of the emergency repairs.

Mitigation is not proposed with this project as described in the mitigation narrative summary included within this application package.

The lead people to contact for this project are Ralph Sanders, Highway Maintenance District 6 (868-1133 or Ralph.Sanders@dot.nh.gov) or Matt Urban, Chief, Operations Management Section, Bureau of Environment (271-3226 or matt.urban@dot.nh.gov).

A payment voucher has been processed for this application (Voucher #586895) in the amount of $200.

If and when this application meets with the approval of the Bureau, please send the permit directly to Matt Urban, Wetlands Program Manager, Bureau of Environment.

AMO:mru
Enclosures

cc:
BOE Original
Town of Newmarket (4 copies via certified mail)
Piscassic River Local Advisory Committee (via certified mail)
David Trubey, NH Division of Historic Resources (Cultural Review Within)
Carol Henderson, NH Fish & Game (via electronic notification)
Maria Tur, US Fish & Wildlife (via electronic notification)
Mark Kern, US Environmental Protection Agency (via electronic notification)
Michael Hicks, US Army Corp of Engineers (via electronic notification)
Kevin Nyhan, BOE (via electronic notification)

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NHDES-W-06-012

WETLANDS PERMIT APPLICATION

Water Division/ Wetlands Bureau
Land Resources Management

Check the status of your application: www.des.nh.gov/onestop

RSA/Rule: RSA 482-A/ Env-Wt 100-900

Administrative Use Only	Administrative Use Only	Administrative Use Only	File No.:
			Check No.:
			Amount:
			Initials:

1. REVIEW TIME: Indicate your Review Time below. To determine review time, refer to Guidance Document A for instructions.

☒ Standard Review (Minimum, Minor or Major Impact) ☐ Expedited Review (Minimum Impact only)

2. MITIGATION REQUIREMENT:

If mitigation is required, a Mitigation-Pre Application meeting must occur prior to submitting this Wetlands Permit Application. To determine if mitigation is required, please refer to the Determine if Mitigation is Required Frequently Asked Questions.

Mitigation Pre-Application Meeting Date: Month: __ Day: __ Year: ____

☒ N/A - Mitigation is not required

3. PROJECT LOCATION:

Separate wetland permit applications must be submitted for each municipality within which wetland impacts occur.

ADDRESS: **Grant Rd.**			TOWN/CITY: **Newmarket**
TAX MAP: **N/A**	BLOCK: **N/A**	LOT: **N/A**	UNIT: **N/A**
USGS TOPO MAP WATERBODY NAME: **unnamed stream** ☐ NA		STREAM WATERSHED SIZE: **1.19 sq miles** ☐ NA	
LOCATION COORDINATES (If known): **Lat 43.0646 / Long -70.9667**		☒ Latitude/Longitude ☐ UTM ☐ State Plane	

4. PROJECT DESCRIPTION:

Provide a brief description of the project outlining the scope of work. Attach additional sheets as needed to provide a detailed explanation of your project. DO NOT reply "See Attached" in the space provided below.

Emergency Authorization Follow-Up (DES# 2019-1909)
Replace 10 LF of 48" CMP with 10 LF of 24" HDPE. Replace granite headwall. The culvert is approximately 800' east of the intersection of Grant Road and Ash Swamp Rd.

5. SHORELINE FRONTAGE:

☒ N/A This does not have shoreline frontage. SHORELINE FRONTAGE:

Shoreline Frontage is calculated by determining the average of the distances of the actual natural navigable shoreline frontage and a straight line drawn between the property lines, both of which are measured at the normal high water line (Env-Wt 101.89).

6. RELATED NHDES LAND RESOURCES MANAGEMENT PERMIT APPLICATIONS ASSOCIATED WITH THIS PROJECT:

Please indicate if any of the following permit applications are required and, if required, the status of the application.

To determine if other Land Resources Management Permits are required, refer to the Land Resources Management Webpage.

Permit Type	Permit Required	File Number	Permit Application Status
Alteration of Terrain Permit Per RSA 485-A:17	☐ YES ☒ NO	____	☐ APPROVED ☐ PENDING ☐ DENIED
Individual Sewerage Disposal per RSA 485-A:2	☐ YES ☒ NO	____	☐ APPROVED ☐ PENDING ☐ DENIED
Subdivision Approval Per RSA 485-A	☐ YES ☒ NO	____	☐ APPROVED ☐ PENDING ☐ DENIED
Shoreland Permit Per RSA 483-B	☐ YES ☒ NO	____	☐ APPROVED ☐ PENDING ☐ DENIED

7. NATURAL HERITAGE BUREAU & DESIGNATED RIVERS:

See the Instructions & Required Attachments document for instructions to complete a & b below.

a. Natural Heritage Bureau File ID: NHB **19** - **3202** .

b. ☒ This project is within a Designated River corridor. The project is within ¼ mile of: **Piscassic River** ; and date a copy of the application was sent to the Local River Management Advisory Committee: Month: __ Day: __ Year: ____

☐ N/A – This project is not within a Designated River corridor.

8. APPLICANT INFORMATION (Desired permit holder)

LAST NAME, FIRST NAME, M.I.: **NH Dept. Transportation**			
TRUST / COMPANY NAME: **NHDOT**	MAILING ADDRESS: **PO BOX 483**		
TOWN/CITY: **Concord**		STATE: **NH**	ZIP CODE: **03824**
EMAIL or FAX: **brian.schutt@dot.nh.gov**	PHONE: **603-868-1133**		

ELECTRONIC COMMUNICATION: By initialing here: **BTS**, I hereby authorize NHDES to communicate all matters relative to this application electronically.

9. PROPERTY OWNER INFORMATION (If different than applicant)

LAST NAME, FIRST NAME, M.I.:			
TRUST / COMPANY NAME:	MAILING ADDRESS:		
TOWN/CITY:		STATE:	ZIP CODE:
EMAIL or FAX:	PHONE:		

ELECTRONIC COMMUNICATION: By initialing here _____, I hereby authorize NHDES to communicate all matters relative to this application electronically.

10. AUTHORIZED AGENT INFORMATION

LAST NAME, FIRST NAME, M.I.:	COMPANY NAME:		
MAILING ADDRESS:			
TOWN/CITY:		STATE:	ZIP CODE:
EMAIL or FAX:	PHONE:		

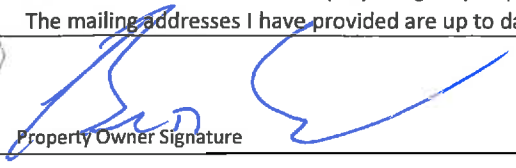
ELECTRONIC COMMUNICATION: By initialing here _____, I hereby authorize NHDES to communicate all matters relative to this application electronically.

11. PROPERTY OWNER SIGNATURE:

See the Instructions & Required Attachments document for clarification of the below statements

By signing the application, I am certifying that:

1. I authorize the applicant and/or agent indicated on this form to act in my behalf in the processing of this application, and to furnish upon request, supplemental information in support of this permit application.
2. I have reviewed and submitted information & attachments outlined in the Instructions and Required Attachment document.
3. All abutters have been identified in accordance with RSA 482-A:3, I and Env-Wt 100-900.
4. I have read and provided the required information outlined in Env-Wt 302.04 for the applicable project type.
5. I have read and understand Env-Wt 302.03 and have chosen the least impacting alternative.
6. Any structure that I am proposing to repair/replace was either previously permitted by the Wetlands Bureau or would be considered grandfathered per Env-Wt 101.47.
7. I have submitted a Request for Project Review (RPR) Form (www.nh.gov/nhdhr/review) to the NH State Historic Preservation Officer (SHPO) at the NH Division of Historical Resources to identify the presence of historical/ archeological resources while coordinating with the lead federal agency for National Historic Preservation Act (NHPA) 106 compliance.
8. I authorize NHDES and the municipal conservation commission to inspect the site of the proposed project.
9. I have reviewed the information being submitted and that to the best of my knowledge the information is true and accurate.
10. I understand that the willful submission of falsified or misrepresented information to the NHDES is a criminal act, which may result in legal action.
11. I am aware that the work I am proposing may require additional state, local or federal permits which I am responsible for obtaining.
12. The mailing addresses I have provided are up to date and appropriate for receipt of NHDES correspondence. NHDES will not forward returned

Property Owner Signature	Print name legibly	Date
	Brian T. Schutt	10/25/19

MUNICIPAL SIGNATURES

12. CONSERVATION COMMISSION SIGNATURE

The signature below certifies that the municipal conservation commission has reviewed this application, and:

1. Waives its right to intervene per RSA 482-A:11;
2. Believes that the application and submitted plans accurately represent the proposed project; and
3. Has no objection to permitting the proposed work.

	Print name legibly	Date
⇨		

DIRECTIONS FOR CONSERVATION COMMISSION

1. Expedited review ONLY requires that the conservation commission's signature is obtained in the space above.
2. Expedited review requires the Conservation Commission signature be obtained **prior** to the submittal of the original application to the Town/City Clerk for signature.
3. The Conservation Commission may refuse to sign. If the Conservation Commission does not sign this statement for any reason, the application is not eligible for expedited review and the application will be reviewed in the standard review time frame.

13. TOWN / CITY CLERK SIGNATURE

As required by Chapter 482-A:3 (amended 2014), I hereby certify that the applicant has filed four application forms, four detailed plans, and four USGS location maps with the town/city indicated below.

	Print name legibly	Town/City	Date
⇨			

DIRECTIONS FOR TOWN/CITY CLERK:

Per RSA 482-A:3,I

1. For applications where "Expedited Review" is checked on page 1, if the Conservation Commission signature is not present, NHDES will accept the permit application, but it will NOT receive the expedited review time.
2. IMMEDIATELY sign the original application form and four copies in the signature space provided above;
3. Return the signed original application form and attachments to the applicant so that the applicant may submit the application form and attachments to NHDES by mail or hand delivery.
4. IMMEDIATELY distribute a copy of the application with one complete set of attachments to each of the following bodies: the municipal Conservation Commission, the local governing body (Board of Selectmen or Town/City Council), and the Planning Board; and
5. Retain one copy of the application form and one complete set of attachments and make them reasonably accessible for public review.

DIRECTIONS FOR APPLICANT:

1. Submit the single, original permit application form bearing the signature of the Town/ City Clerk, additional materials, and the application fee to NHDES by mail or hand delivery.

14. IMPACT AREA:

For each jurisdictional area that will be/has been impacted, provide square feet and, if applicable, linear feet of impact.

***Permanent**: impacts that will remain after the project is complete.*

***Temporary**: impacts not intended to remain (and will be restored to pre-construction conditions) after the project is completed.*

***Intermittent Streams**: linear footage distance of disturbance is measured along the thread of the channel.*

***Perennial Streams/ Rivers**: the total linear footage distance is calculated by summing the lengths of disturbance to the channel and each bank.*

JURISDICTIONAL AREA	PERMANENT Sq. Ft. / Lin. Ft.		TEMPORARY Sq. Ft. / Lin. Ft.	
Forested wetland		☐ ATF		☐ ATF
Scrub-shrub wetland		☐ ATF		☐ ATF
Emergent wetland		☐ ATF		☐ ATF
Wet meadow		☐ ATF		☐ ATF
Intermittent stream channel	/	☐ ATF	/	☐ ATF
Perennial Stream / River channel	5 / 1	☒ ATF	45 / 5	☒ ATF
Lake / Pond	/	☐ ATF	/	☐ ATF
Bank - Intermittent stream	/	☐ ATF	/	☐ ATF
Bank - Perennial stream / River	6 / 2	☒ ATF	24 / 12	☒ ATF
Bank - Lake / Pond	/	☐ ATF	/	☐ ATF
Tidal water	/	☐ ATF	/	☐ ATF
Salt marsh		☐ ATF		☐ ATF
Sand dune		☐ ATF		☐ ATF
Prime wetland		☐ ATF		☐ ATF
Prime wetland buffer		☐ ATF		☐ ATF
Undeveloped Tidal Buffer Zone (TBZ)		☐ ATF		☐ ATF
Previously-developed upland in TBZ		☐ ATF		☐ ATF
Docking - Lake / Pond		☐ ATF		☐ ATF
Docking - River		☐ ATF		☐ ATF
Docking - Tidal Water		☐ ATF		☐ ATF
Vernal Pool		☐ ATF		☐ ATF
TOTAL	11 / 3		175 / 17	

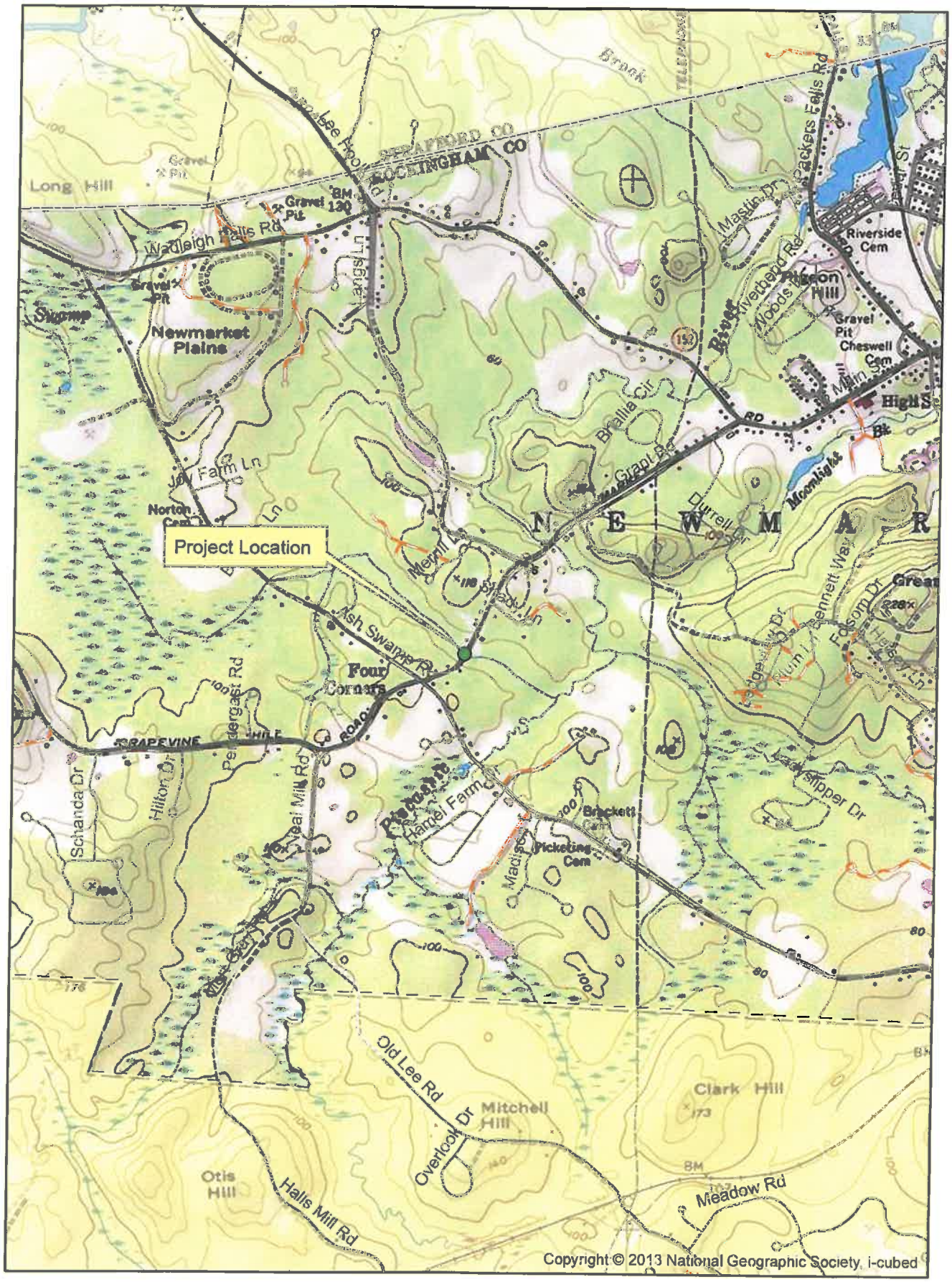
15. APPLICATION FEE: See the Instructions & Required Attachments document for further instruction

☐ Minimum Impact Fee: Flat fee of $ 200

☒ Minor or Major Impact Fee: Calculate using the below table below

Permanent and Temporary (non-docking)	**186** sq. ft.	X	$0.20 =	**$ 37.20**
Temporary (seasonal) docking structure:	sq. ft.	X	$1.00 =	$
Permanent docking structure:	sq. ft.	X	$2.00 =	$
Projects proposing shoreline structures (including docks) add $200 =				$
Total =				**$ 37.20**
The Application Fee is the above calculated Total or $200, whichever is greater =				**$ 200.00**

Newmarket - EAV:2019-01909



WETLANDS PERMIT APPLICATION – ATTACHMENT A
MINOR AND MAJOR - 20 QUESTIONS

Land Resources Management
Wetlands Bureau

Check the Status of your application: www.des.nh.gov/onestop

RSA/ Rule: RSA 482-A, Env-Wt 100-900

Env-Wt 302.04 Requirements for Application Evaluation - For any major or minor project, the applicant shall demonstrate by plan and example that the following factors have been considered in the project's design in assessing the impact of the proposed project to areas and environments under the department's jurisdiction. Respond with statements demonstrating:

1. The need for the proposed impact.

On June 26th the NHDOT obtained an emergency authorization from NHDES (2019-01909). The Department discovered what appeared to be an inlet of a 48" CMP that was clogged with debris. What we didn't know was that this 48" pipe was joined to an existing 24" structure that went under our roadway and this 48" CMP was just an added on 10 LF extension onto the smaller structure. This resulted in debris to build up where the two pipes were joined causing the flow to back up on an abbutters property. The joint between the CMP and the concrete-metal arch structure was causing debris to snag and restrict flow. For these reasons an emergency authorization was requested to be able to remove the 10LF of 48" CMP and to to replace it with 10LF of 24" HDPE to match the size of the existing crossing under the road so as to prevent debris build up at the joint.

2. That the alternative proposed by the applicant is the one with the least impact to wetlands or surface waters on site.

At the time of the emergency failure District 6 considered a few alternatives and had to make quick decisions for which would be the safest, most cost effective, and least impacting alternative to move forward with.

One alternative was do nothing and shut the road down. This alternative was quickly dismissed because of the real time threat to adjacent property and the disruption it would cause to traffic.

Another alternative considered was to try and manually unclogg the debris from the structure. This was quickly dismissed because there was no feasible way to safely reach the debris within the 10 long structure.

Another alternative consisted of removing the existing 48" CMP in-kind. This was dismissed because it would not address the issue that resulted in debris building up at the joint where the size of pipes was mismatched.

Another alternative considered was a full culvert removal and replacement of the existing 48" and 24" structure under the roadway, and upsizing it. This alternative was not selected because it would have resulted in more impacts to the downstream side whereby increasing impacts, we also did not have larger pipes on hand to quickly use during an emergecny and there was not enough time during this emergecny to wait and order materials from a supplier.

This alternative that was chosen consisted of removing the 10 LF of 48" CMP along with the debris that built up at the joint, and then replacing it with a 10 LF section of 24" plasctic pipe that would match the size of the structure currently crossing the roadway. This alternative limited impacts to only the inlet side with limited permanent impacts, and could be accomplished with materials we had available to be able to react to the emergency quickly.

3. The type and classification of the wetlands involved.

PFO1E

R2UB1,2

Bank

4. The relationship of the proposed wetlands to be impacted relative to nearby wetlands and surface waters.

The culvert repair at the un-named stream on Grant Road is 1,400' north of the Piscassic River and lies within a 1/4 mile of the Designated River. The Piscassic is a tributary to the Lamprey River.

5. The rarity of the wetland, surface water, sand dunes, or tidal buffer zone area.

The wetlands and streams within the project area are typical of the region and are not considered rare.

6. The surface area of the wetlands that will be impacted.

Permanent Bank: 6 SF / 2 LF

Permanent Channel: 5 SF / 1 LF

Temporary Bank: 24 SF / 12 LF

Temporary Channel: 45 SF / 5 LF

Temporary Wetland (PFO1E) 106 SF

Total: 186 SF

7. The impact on plants, fish and wildlife including, but not limited to:
   a. Rare, special concern species;
   b. State and federally listed threatened and endangered species;
   c. Species at the extremities of their ranges;
   d. Migratory fish and wildlife;
   e. Exemplary natural communities identified by the DRED-NHB; and
   f. Vernal pools.

An NHB was completed after the emergecy work had been completed.

The NHB records identified Blandings Turtle, Jefferson/Blue-spotted Salamander Complex, Northern Long Eared Bat, and Spotted Turtle. It also identified a Low gradient silty-sandy riverbank system. The IPAC was also completed after this work had been completed and the IPAC also identified the Northern Long Eared Bat as well as Small Whorled Pagonia. The Department has completed the 4 (d) consultation with USF&WS for the NLEB. Post construction field reviewed have enabled us to determine that the project area was not suitable habitat for the SWP. After the fact coordination taken place with NH F&G to provide clarification for why it appeared that we were downsizing from a 48" pipe to a 24" pipe. The Department explained how there was a mismatch of pipes joined together and that we were putting back a 24" pipe to match what was currently running under the roadway.

8. The impact of the proposed project on public commerce, navigation and recreation.

The emergency repair had a minor impact to the traveling public for a couple days. If a different culvert was required the public commerece could have been impacted for several more days. There will be no permanent impact to public commerece.

There will be no impact to navigation since the existing stream is too small for navigation.

The existing stream does not appear to be used for recreation purposes. During the dry season the flow rate is very low and resticts such activies such as swimming or boating.

9. The extent to which a project interferes with the aesthetic interests of the general public. For example, where an applicant proposes the construction of a retaining wall on the bank of a lake, the applicant shall be required to indicate the type of material to be used and the effect of the construction of the wall on the view of other users of the lake.

The repairs included a granite headwall that stabalizes the bank and roadway. The headwall has an aesthically pleasing look constructed of NH granite.

The view of the inlet is not easy to access because of the wooded area and will not be viewed by many.

10. The extent to which a project interferes with or obstructs public rights of passage or access. For example, where the applicant proposes to construct a dock in a narrow channel, the applicant shall be required to document the extent to which the dock would block or interfere with the passage through this area.

The emergency repair has no interence with public rights of passage.

11. The impact upon abutting owners pursuant to RSA 482-A:11, II. For example, if an applicant is proposing to rip-rap a stream, the applicant shall be required to document the effect of such work on upstream and downstream abutting properties.

The emergency repair was done to stop the flooding of an abutting property. The existing 48" CMP culvert inlet was not continous throught the entire length. A majority of the culvert minus the 10' at the inlet was constructed of concrete and metal arch structure. The work as completed will not perpetuate any flooding at this location. The stucture can now bew visually managed for any possible build up of debris and cleared if nessecary.

12. The benefit of a project to the health, safety, and well being of the general public.

The repalcement of the severly rusted and failing culvert inlet with a new HDPE culvert improved the flow conditon eliminating the flooding of an abutting property.

13. The impact of a proposed project on quantity or quality of surface and ground water. For example, where an applicant proposes to fill wetlands the applicant shall be required to document the impact of the proposed fill on the amount of drainage entering the site versus the amount of drainage exiting the site and the difference in the quality of water entering and exiting the site.

The permanent area of impact is very similar to the previous condition. Example, headwal and culvert. The HDPE culvert will improve and prevent rusted metal from entering the un-named stream and improve water quality.

No work was done at the outlet of the culvert and by repalcing the plugged inlet this assure normal flow will take place.

14. The potential of a proposed project to cause or increase flooding, erosion, or sedimentation.

We believe the improved HDPE inlet will improve flow through out the culvert with lower headwater depth, lower outlet velocity and minimal increase in capacity.

15. The extent to which a project that is located in surface waters reflects or redirects current or wave energy which might cause damage or hazards.

N/A. We do not expect this emergency repair of this un-named stream to alter current or wave energy in any surrounding streams or the Pisscasic River.

16. The cumulative impact that would result if all parties owning or abutting a portion of the affected wetland or wetland complex were also permitted alterations to the wetland proportional to the extent of their property rights. For example, an applicant who owns only a portion of a wetland shall document the applicant's percentage of ownership of that wetland and the percentage of that ownership that would be impacted.

It is unlikely that abutting landowners would be propsosing similar work within the DOT ROW on the same wetland complex.

17. The impact of the proposed project on the values and functions of the total wetland or wetland complex.

The un-named stream that crosses Grant Road through this repaired culvert is not used public navigation or recreation. The improved inlet will prevent flooding of an abutting property.

18. The impact upon the value of the sites included in the latest published edition of the National Register of Natural Landmarks, or sites eligible for such publication.

None.

19. The impact upon the value of areas named in acts of congress or presidential proclamations as national rivers, national wilderness areas, national lakeshores, and such areas as may be established under federal, state, or municipal laws for similar and related purposes such as estuarine and marine sanctuaries.

None.

20. The degree to which a project redirects water from one watershed to another.

This repair will not redirect water from watershed to another.

Additional comments

Mitigation Narrative

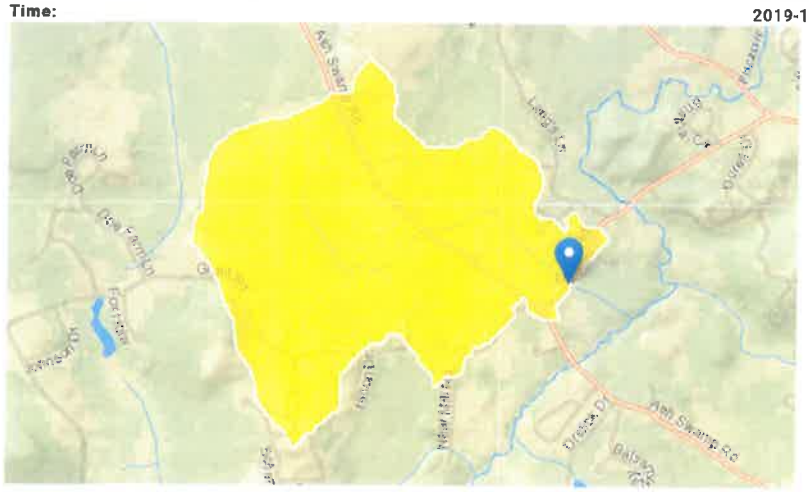
New Market (2019-01909)

On June 26th the NHDOT obtained an emergency authorization from NHDES (2019-01909). The Department discovered what appeared to be an inlet of a 48" CMP that was clogged with debris. What we didn't know was that this 48" pipe was joined to an existing 24" structure that went under our roadway and this 48" CMP was just an added on 10 LF extension onto the smaller structure. This resulted in debris to build up where the two pipes were joined causing the flow to back up on an abbutters property. The joint between the CMP and the concrete-metal arch structure was causing debris to snag and restrict flow. For these reasons an emergency authorization was requested to be able to remove the 10LF of 48" CMP and to to replace it with 10LF of 24" HDPE to match the size of the existing crossing under the road so as to prevent debris build up at the joint.

This work that was done during this emergency was primarily kept to temporary impacts. We have shown minimal permanent impacts associated with the inclusion of a new granite headwall where one previously did not exist. This new headwall is intended to protect the existing roadway infrastructure behind the headwall. For this reason and due to the limited permanent impacts the Department will not be proposing mitigation for this emergency work.

StreamStats Report

Region ID: NH
Workspace ID: NH20191022120958343000
Clicked Point (Latitude, Longitude): 43.06453, -70.96664
Time: 2019-10-22 08:10:14 -0400



Newmarket

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	1.19	square miles
TEMP	Mean Annual Temperature	46.94	degrees F
PREG_06_10	Mean precipitation at gaging station location for June to October summer period	17.2	inches

Low-Flow Statistics Parameters[Low Flow Statewide]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.19	square miles	3.26	689
TEMP	Mean Annual Temperature	46.94	degrees F	36	48.7
PREG_06_10	Jun to Oct Gage Precipitation	17.2	inches	16.5	23.1

Low-Flow Statistics Disclaimers[Low Flow Statewide]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report[Low Flow Statewide]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0296	ft^3/s
7 Day 10 Year Low Flow	0.00739	ft^3/s

Low-Flow Statistics Citations

Flynn, R.H. and Tasker, G.D.,2002, Development of Regression Equations to Estimate Flow Durations and Low-Flow-Frequency Statistics in New Hampshire Streams: U.S.Geological Survey Scientific Investigations Report 02-4298, 66 p. (http://pubs.water.usgs.gov/wrir02-4298)

NH Department of Transportation
District 6
Newmarket, 2019-10909
Env-Wt 904.09 Alternative Design
TECHNICAL REPORT

Env-Wt 904.09(a) - If the applicant believes that installing the structure specified in the applicable rule is not practicable, the applicant may propose an alternative design in accordance with this section.

Please explain why the structure specified in the applicable rule is not practicable (Env-Wt 101.69 defines practicable as *available and capable of being done after taking into consideration costs, existing technology, and logistics in light of overall project purposes.)*
The work that was completed at this location was done under an emergency authorization issued by NHDES (2019-01909). It was not practicable at the time of the emergency to construct a structure in full compliance with the stream crossing guidelines. The Department needed to quickly respond to an immediate threat to private property by removing the 48" CMP and Debris and installing a 24" HDPE to match the size of the structure running underneath Grant Road. This was the least impacting, most cost effective way to immediately remedy the emergency situation at hand.

The proposed alternative meets the specific design criteria for Tier 2 and Tier 3 crossings to the *maximum extent practicable*, as specified below.

Env-Wt 904.05 Design Criteria for Tier 2 and Tier 3 Stream Crossings – New Tier 2 stream crossings, replacement Tier 2 crossings that do not meet the requirements of Env-Wt 904.07, and new and replacement Tier 3 crossings shall be designed and constructed:

(a) In accordance with the NH Stream Crossing Guidelines.
The Department installed a new pipe that matched the existing size structure running under Grant Rd. This structure is likely undersized but only flooded as a result of debris that had built up at the mismatched joint between the two structures. This structure otherwise was able to pass the Q50 and accommodate the Q100.

(b) With bed forms and streambed characteristics necessary to cause water depths and velocities within the crossing structure at a variety of flows to be comparable to those found in the natural channel upstream and downstream of the stream crossing.

The Department did not alter the stream bed characteristics. The existing structure was closed bottomed and the 10 LF 24" end section we replaced was also closed bottomed.

(c) To provide a vegetated bank on both sides of the watercourse to allow for wildlife passage.

The existing structure did not allow for vegetated banks through the structure. There are vegetated banks leading up to the structure.

(d) To preserve the natural alignment and gradient of the stream channel, so as to accommodate natural flow regimes and the functioning of the natural floodplain. **There was not change to the alignment or gradient of the stream channel as a result of the completed emergency work.**

(e) To accommodate the 100-year frequency flood, to ensure that (1) there is no increase in flood stages on abutting properties; and (2) flow and sediment transport characteristics will not be affected in a manner which could adversely affect channel stability.
The existing crossing did not have a history of flooding until it became clogged with debris. The crossing as constructed is expected to pass the Q50 and accommodate the Q100.

(f) To simulate a natural stream channel.
The work completed under this emergency authorization did not require permanent stream channel impacts and therefore no simulated stream channel was proposed.

(g) So as not to alter sediment transport competence.
The structure is anticipated to not alter or diminish the crossings current ability to transport sediments.

Env-Wt 904.09(c)(3) – The alternative design must meet the general design criteria specified in Env-Wt 904.01:

Env-Wt 904.01
(a) Not be a barrier to sediment transport;
The work completed will not diminish the crossings ability to transport sediment.

(b) Prevent the restriction of high flows and maintain existing low flows;
The work completed will match that of the existing crossing under the roadway and therefore will not restrict high flows and will maintain low flows.

(c) Not obstruct or otherwise substantially disrupt the movement of aquatic life indigenous to the waterbody beyond the actual duration of construction;
The work completed matches that of which is currently running under the roadway and will not further disrupt the movement of AOP.

(d) Not cause an increase in the frequency of flooding or overtopping of banks;
The work as completed will not cause an increase in flooding or overtopping of banks, the work that was done was intended to specifically prevent this from occurring.

(e) Preserve watercourse connectivity where it currently exists;
The work completed did not alter the stream alignment, grade or connectivity at this crossing.

(f) Restore watercourse connectivity where: (1) Connectivity previously was disrupted as a result of human activity(ies); and (2) Restoration of connectivity will benefit aquatic life upstream or downstream of the crossing, or both;
The work completed included the removal of debris that was disrupting connectivity through the structure. The proposed work has restored connectivity.

(g) Not cause erosion, aggradation, or scouring upstream or downstream of the crossing; and
The work completed will not cause or contribute to increased erosion or aggradation.

(h) Not cause water quality degradation.
The work that was completed was done with BMP's in place during the emergency repairs and will have no long term impact to the water quality of this unnamed stream.

*****Note: An alternative design for Tier 1 stream crossings must meet the general design criteria (Env-Wt 904.01) only to the *maximum extent practicable.***

CONFIDENTIAL – NH Dept. of Environmental Services review

Memo

NH NATURAL HERITAGE BUREAU
NHB DATACHECK RESULTS LETTER

To: Matt Urban, NH Department of Transportation
7 Hazen Dr.
Concord , NH 03301

From: Amy Lamb, NH Natural Heritage Bureau
Date: 10/11/2019 1:23:41 PM (valid for one year from this date)
Re: Review by NH Natural Heritage Bureau
NHB File ID: NHB19-3202 Town: Newmarket Location: The culvert is approximately 800' east of the intersection of Grant Road and Ash Swamp Rd.

Description: Replace 10 LF of 48" CMP with 10 LF of 24" HDPE. Replace granite headwall.
cc: Kim Tuttle

As requested, I have searched our database for records of rare species and exemplary natural communities, with the following results:

Comments: Please clarify why the culvert will be downsized from 48" to 24", and provide justification for the use of HDPE. There are various wildlife species in the vicinity; please contact the NH Fish & Game Department to address wildlife concerns. Generally, NHB would be supportive of structures that improve aquatic connectivity to the low-gradient silty-sandy riverbank system rather than cause further constrictions to tributary streams.

Natural Community	State[1]	Federal	Notes
Low-gradient silty-sandy riverbank system	--	--	Threats to this natural community are changes in the river's hydrology, human disturbance of the riverbank (such as bulldozer activity), and increased nutrient levels from upland runoff.

Vertebrate species	State[1]	Federal	Notes
Blanding's Turtle (*Emydoidea blandingii*)	E	--	Contact the NH Fish & Game Dept (see below).
Jefferson/Blue-spotted Salamander Complex (*Ambystoma pop. 3*)	--	--	Contact the NH Fish & Game Dept (see below).
Northern Long-eared Bat (*Myotis septentrionalis*)	E	T	Contact the NH Fish & Game Dept and the US Fish & Wildlife Service (see below).
Spotted Turtle (*Clemmys guttata*)	T	--	Contact the NH Fish & Game Dept (see below).

[1]Codes: "E" = Endangered, "T" = Threatened, "SC" = Special Concern, "--" = an exemplary natural community, or a rare species tracked by NH Natural Heritage that has not yet been added to the official state list. An asterisk (*) indicates that the most recent report for that occurrence was more than 20 years ago.

Contact for all animal reviews: Kim Tuttle, NH F&G, (603) 271-6544.

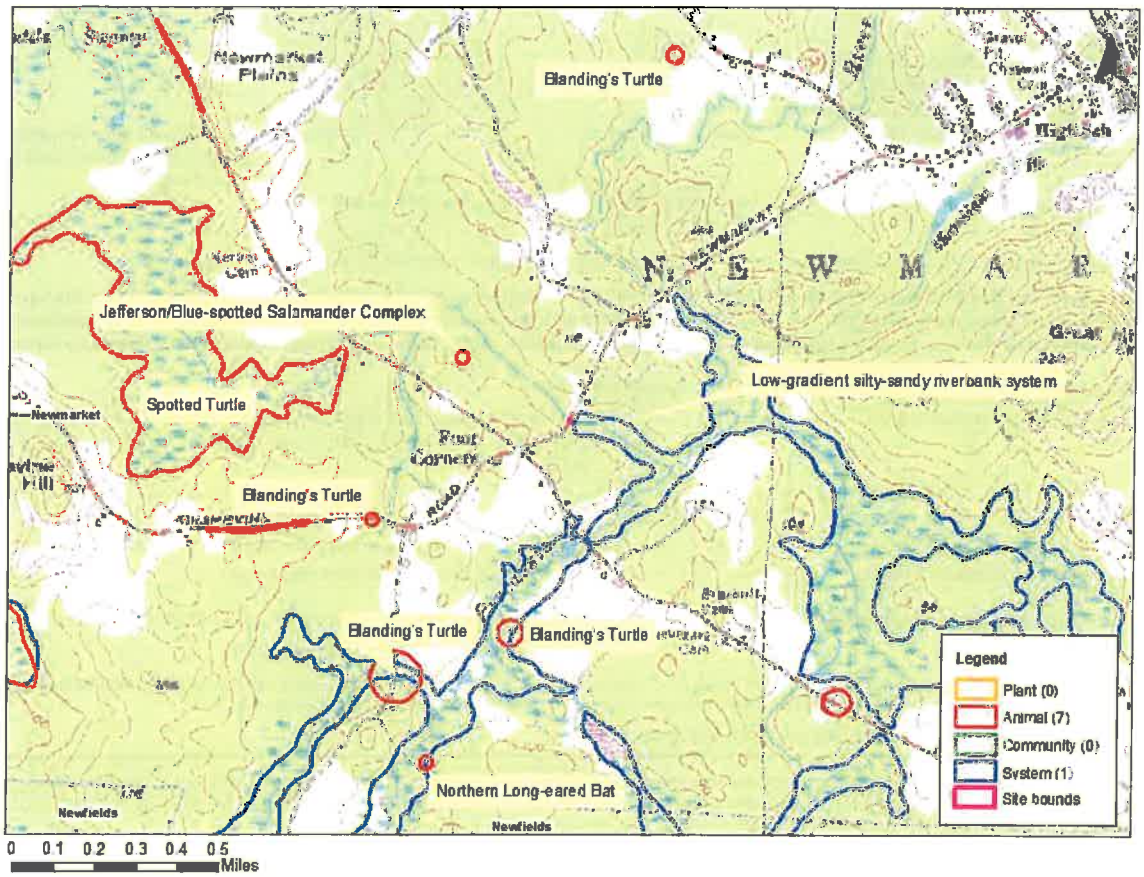
A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 **fax:** 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301

CONFIDENTIAL – NH Dept. of Environmental Services review

NHB19-3202



Urban, Matt

From: Lamb, Amy
Sent: Tuesday, October 22, 2019 2:30 PM
To: Urban, Matt; Tuttle, Kim
Cc: Magee, John
Subject: RE: NHB19-3202 ATF Newmarket Grant rd. culvert replacement

Hello Matt,

Thank you for providing the explanation for replacing the 48" pipe segment with a 24" segment (in order to match with the remainder of the existing 24" pipe). Thank you as well for providing photos of the site.

Since the replacement pipe segment was installed to match with the existing remaining 24" structure, NHB does not have concerns about this emergency replacement and after-the-fact application. However, we recommend that any future proposed replacement structure be sized appropriately and be constructed out of NHF&G-approved materials.

Amy Lamb
Ecological Information Specialist
(603) 271-2834
amy.lamb@dncr.nh.gov

NH Natural Heritage Bureau
DNCR - Forests & Lands
172 Pembroke Rd
Concord, NH 03301

From: Urban, Matt <Matt.Urban@dot.nh.gov>
Sent: Monday, October 21, 2019 10:40 AM
To: Tuttle, Kim <Kim.Tuttle@wildlife.nh.gov>
Cc: Magee, John <john.magee@wildlife.nh.gov>; Lamb, Amy <Amy.Lamb@dncr.nh.gov>
Subject: RE: NHB19-3202 ATF Newmarket Grant rd. culvert replacement

Email 2 of 2 with additional photos.

Thanks,
Matt

From: Urban, Matt
Sent: Monday, October 21, 2019 10:39 AM
To: Tuttle, Kim
Cc: Magee, John; Lamb, Amy
Subject: RE: NHB19-3202 ATF Newmarket Grant rd. culvert replacement

Hi Kim,

Because of email sizes I will be sending you two emails

Email 1 has photos of the completed work.

Email 2 will have images showing the existing 24" pipe under the road and the 48" that was at the inlet.

We have not field truthed the bank full width but it would appear from the areas and measurements taken in GIS that the average bank full width is approximately 10-15 ft.

Just to reiterated the entire pipe was not replaced. We only removed the formerly unpermitted extension that was a 48" pipe (we are unclear why this was ever added on in the first place likely decades ago)...during the emergency repair we added the 24" pipe to join the already existing 24" structure that goes completely under the roadway.

I acknowledge your concerns about smooth pipes increasing velocity but I also struggle to see how it will have much of an effect with the existing 24" structure that we joined onto which was still in place. This structure from a size standpoint has always been there. It was just masked by the larger 48" at the opening for the first 10 feet. This stream is pretty slow moving and the pipe is set fairly flat. I don't anticipate there being any major velocity issues despite using the plastic pipe.

As for certainty of timing for a future project I cannot say.
We know it's undersized and something we will want to address at some point sooner than later.
However, that decision comes from the front office and our Districts who must determine where this falls in comparison to other culvert priorities that are being managed.

Thanks,

Matt Urban
Chief, Operations Management Section
NHDOT Bureau of Environment
Matt.Urban@dot.nh.gov
Office Phone: (603) 271-7969
Cell Phone: (603) 513-9526

From: Tuttle, Kim
Sent: Monday, October 21, 2019 8:19 AM
To: Urban, Matt
Cc: Magee, John; Lamb, Amy
Subject: NHB19-3202 ATF Newmarket Grant rd. culvert replacement

Hello Matt,

Could you send a couple of photos of the existing perennial stream and bank full measurement and an aerial of the location? We have some concerns whether a 24" HDPE was appropriate given the threatened and endangered species occurrences in the area. We understand that the work was completed under an emergency authorization but the small diameter pipe certainly doesn't provide adequate wildlife passage opportunities especially if it is smooth bore plastic that will increase velocities within the pipe. Additionally, given the lifespan of plastic pipe, can we be assured that the entire culvert will be upsized in a reasonable timeframe to meet stream crossing guidelines?

Thanks,

Kim Tuttle
Wildlife Biologist

NH Fish and Game
11 Hazen Drive
Concord, NH 03301
603-271-6544

From: Urban, Matt <Matt.Urban@dot.nh.gov>
Sent: Monday, October 21, 2019 7:04 AM
To: Lamb, Amy <Amy.Lamb@dncr.nh.gov>
Cc: Tuttle, Kim <Kim.Tuttle@wildlife.nh.gov>
Subject: RE: NHB review: NHB19-3202

Hi Amy,

Thanks for sending this along.

I see in the comments section you have asked for clarification for the reason that description of work sounds like we are downsizing from a 48" to a 24".

Let me try and explain below:

To start, this work was already completed under an emergency authorization from DES. The cause for the emergency was that debris had built up in our structure causing it to flood abutting neighbors.

When our guys investigated the cause of the debris build-up we found that at some point in history (undocumented) that a 10 foot section of 48" metal pipe was dropped in front of an existing 24" structure that went under our roadway. When the larger 48" pipe filled with debris and couldn't pass through the 24" pipe the system failed and began to back up water and cause flooding. This was a result of the debris having nowhere to go because of this union of two mismatched pipes.

As such, with the emergency approval from DES we yanked out the 48" pipe and replaced it with the 24" pipe to marry it to the existing structure of the same size that currently goes under the road. This we hope will prevent the buildup of material in the pipe, and will allow us to manage build up if any outside of the structure rather than within the structure because we will be able to see what's building up vs. what was previously hidden in the 48" add on.

We will also be evaluating a possible future replacement that upsizes this whole structure. But for now this application is only documenting the as built condition as a result of the work done under the emergency authorization.

I hope this helps clarify.

Thanks,

Matt Urban
Chief, Operations Management Section
NHDOT Bureau of Environment
Matt.Urban@dot.nh.gov
Office Phone: (603) 271-7969
Cell Phone: (603) 513-9526

From: Lamb, Amy
Sent: Friday, October 18, 2019 3:29 PM
To: Urban, Matt
Cc: Tuttle, Kim
Subject: NHB review: NHB19-3202

Matt –

We were dealing with a database error that was preventing us from running off your letter. Our data manager just fixed it this afternoon so here is the letter. We apologize for the delay.

Attached, please find the review we have completed. If your review memo includes potential impacts to plants or natural communities please contact me for further information. If your project had potential impacts to wildlife, please contact NH Fish and Game at the phone number listed on the review.

Best,
Amy

Amy Lamb
Ecological Information Specialist

NH Natural Heritage Bureau
DNCR - Forests & Lands
172 Pembroke Rd
Concord, NH 03301
603-271-2834

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
http://www.fws.gov/newengland

In Reply Refer To:
Consultation Code: 05E1NE00-2020-SLI-0183
Event Code: 05E1NE00-2020-E-00543
Project Name: Newmarket 2019-01909

October 21, 2019

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
(603) 223-2541

Project Summary

Consultation Code: 05E1NE00-2020-SLI-0183

Event Code: 05E1NE00-2020-E-00543

Project Name: Newmarket 2019-01909

Project Type: TRANSPORTATION

Project Description: Emergency Authorization to Remove 48" metal pipe and replace with a 24" pipe to match what currently runs under the roadway.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/43.064392647644084N70.96664342521564W

Counties: Rockingham, NH

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Flowering Plants

NAME	STATUS
Small Whorled Pogonia *Isotria medeoloides* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1890	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
http://www.fws.gov/newengland

IPaC Record Locator: 498-18759902

October 21, 2019

Subject: Consistency letter for the 'Newmarket 2019-01909' project indicating that any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

Dear Matt Uraban:

The U.S. Fish and Wildlife Service (Service) received on October 21, 2019 your effects determination for the 'Newmarket 2019-01909' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. You indicated that no Federal agencies are involved in funding or authorizing this Action. This IPaC key assists users in determining whether a non-Federal action may cause "take"[1] of the northern long-eared bat that is prohibited under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the Action is not likely to result in unauthorized take of the northern long-eared bat.

Please report to our office any changes to the information about the Action that you entered into IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation.

If your Action proceeds as described and no additional information about the Action's effects on species protected under the ESA becomes available, no further coordination with the Service is required with respect to the northern long-eared bat.

The IPaC-assisted determination for the northern long-eared bat **does not** apply to the following ESA-protected species that also may occur in your Action area:

- Small Whorled Pogonia, *Isotria medeoloides* (Threatened)

You may coordinate with our Office to determine whether the Action may cause prohibited take of the animal species listed above.

---

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Newmarket 2019-01909

2. Description

The following description was provided for the project 'Newmarket 2019-01909':

> Emergency Authorization to Remove 48" metal pipe and replace with a 24" pipe to match what currently runs under the roadway.

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/43.064392647644084N70.96664342521564W

Determination Key Result

This non-Federal Action may affect the northern long-eared bat; however, any take of this species that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o).

Determination Key Description: Northern Long-eared Bat 4(d) Rule
This key was last updated in IPaC on **May 15, 2017**. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for non-Federal actions is to assist determinations as to whether proposed actions are excepted from take prohibitions under the northern long-eared bat 4(d) rule.

If a non-Federal action may cause prohibited take of northern long-eared bats or other ESA-listed animal species, we recommend that you coordinate with the Service.

Determination Key Result

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

   No

2. Will your activity purposefully **Take** northern long-eared bats?

   No

3. Is the project action area located wholly outside the White-nose Syndrome Zone?

   Automatically answered

   No

4. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

   Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases is available at www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html.

   Yes

5. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?

   No

6. Will the action involve Tree Removal?

   No

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.

1. Estimated total acres of forest conversion:

0

2. If known, estimated acres of forest conversion from April 1 to October 31

0

3. If known, estimated acres of forest conversion from June 1 to July 31

0

If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?

0

Project__Newmarket 2019-01909_____

NHDOT Cultural Resources Review for after the fact Emergency Repair

For the purpose of compliance with regulations of the National Historic Preservation Act, the Advisory Council on Historic Preservation's *Procedures for the Protection of Historic Properties* (36 CFR 800), the US Army Corps of Engineers' *Appendix C*, and/or state regulation RSA 227-C:9, *Directive for Cooperation in the Protection of Historic Resources*, the NHDOT Cultural Resources Program has reviewed the proposed project for potential impacts to historic properties.

Proposed Project: The project is located at Grant Road over an unnamed stream in Newmarket.

An NHDES emergency authorization (June 26, 2019) was obtained due to identification of a debris clogged inlet of a 48" CMP. This 48" CMP connected to an existing 24" structure that extended under the roadway. The 48" CMP was an added 10 LF extension to the smaller structure, causing build up where the two pipes joined and flow back up on an abutter's property.

The proposed action that was undertaken was to remove the 48" CMP and replace it with a 24" HDPE to match the size of the existing culvert under the road to prevent build up at the joint. A new headwall was also intended to protect the existing roadway infrastructure.

EMMIT review was undertaken on 10/23/2019 and there were no historic or project areas, historical properties, or archaeological sites identified in the project study area.

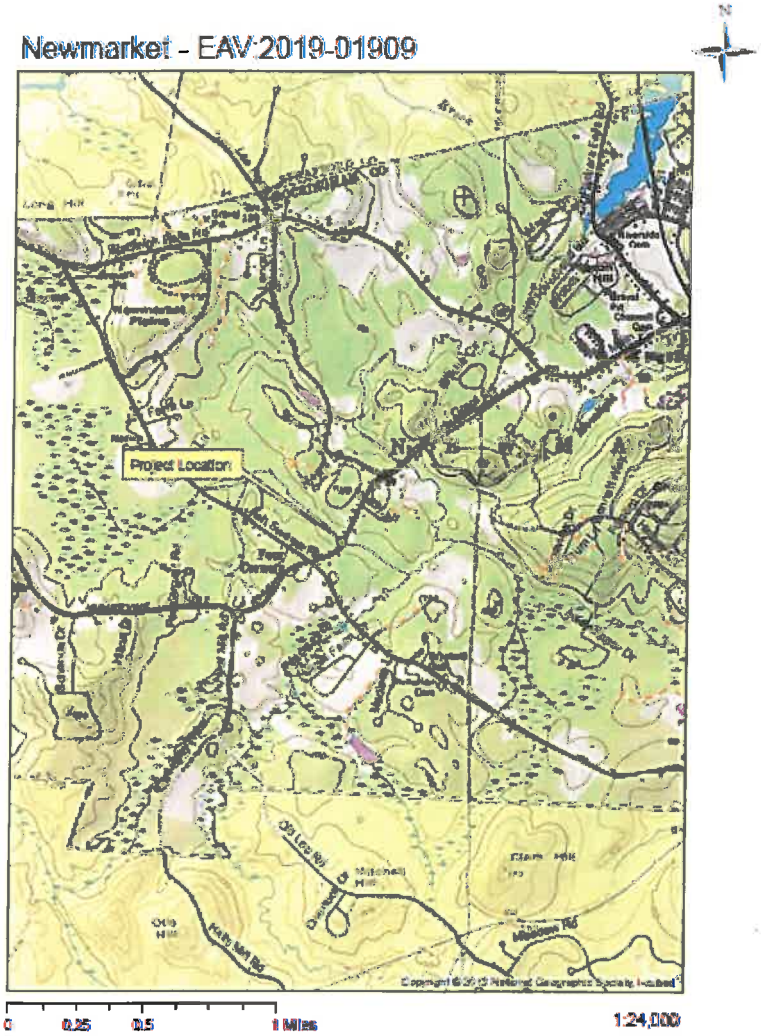


Photo of existing inlet and 48" CMP where it joined to existing headway and 24" structure, erosion and debris are evident

Photo of existing outlet, and view looking from outlet at debris clogged juncture between 48" CMP and 24" structure

Finished work photos, at inlet including view of road shoulder, adjacent wetlands, and BMP protective devices

Above Ground Review

Known/approximate age of structure: Date unknown, Ralph Sanders email (June 20, 2019) indicated, "At some time many years ago the CMP was attached at the inlet end of a box culvert on Grant Road. It is presumed the CMP was less than 50 years old.

☒ **No Potential to Cause Effect/No Concerns**

If this were a federal project, the removal of the 48"CMP and replacement with a 24" HDPE would comply with the Section 106 Programmatic Agreement, Appendix B activities with minimal potential to cause effects, specifically #9, Non-historic bridge and culvert maintenance, renovation, or total replacement, ...

☐ Concerns:

Below Ground Review

Recorded Archaeological site: ☐Yes ☒No

Nearest Recorded Archaeological Site Name & Number: 27-RK-0487 Piscassic River Site
☒Pre-Contact ☐Post-Contact

Distance from Project Area:
3450.5 ft east of the project area

☒ **No Potential to Cause Effect/No Concerns**

Activities were limited to already impacted areas.

☐ Concerns:

Reviewed by:

Sheila Charles

NHDOT Cultural Resources Staff

10/23/2019

Date:

US Army Corps of Engineers
New England District

New Hampshire General Permits (GPs)
Appendix B - Corps Secondary Impacts Checklist
(for inland wetland/waterway fill projects in New Hampshire)

1. Attach any explanations to this checklist. Lack of information could delay a Corps permit determination.
2. All references to "work" include all work associated with the project construction and operation. Work includes filling, clearing, flooding, draining, excavation, dozing, stumping, etc.
3. See GC 5, regarding single and complete projects.
4. Contact the Corps at (978) 318-8832 with any questions.

1. Impaired Waters	Yes	No
1.1 Will any work occur within 1 mile upstream in the watershed of an impaired water? See http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm to determine if there is an impaired water in the vicinity of your work area.*		X
2. Wetlands	Yes	No
2.1 Are there are streams, brooks, rivers, ponds, or lakes within 200 feet of any proposed work?	X	
2.2 Are there proposed impacts to SAS, special wetlands. Applicants may obtain information from the NH Department of Resources and Economic Development Natural Heritage Bureau (NHB) DataCheck Tool for information about resources located on the property at https://www2.des.state.nh.us/nhb_datacheck/. The book Natural Community Systems of New Hampshire also contains specific information about the natural communities found in NH.		X
2.3 If wetland crossings are proposed, are they adequately designed to maintain hydrology, sediment transport & wildlife passage?	X	
2.4 Would the project remove part or all of a riparian buffer? (Riparian buffers are lands adjacent to streams where vegetation is strongly influenced by the presence of water. They are often thin lines of vegetation containing native grasses, flowers, shrubs and/or trees that line the stream banks. They are also called vegetated buffer zones.)		X
2.5 The overall project site is more than 40 acres?		X
2.6 What is the area of the previously filled wetlands?	N/A	
2.7 What is the area of the proposed fill in wetlands?	N/A	
2.8 What is the % of previously and proposed fill in wetlands to the overall project site?	N/A	
3. Wildlife	Yes	No
3.1 Has the NHB & USFWS determined that there are known occurrences of rare species, exemplary natural communities, Federal and State threatened and endangered species and habitat, in the vicinity of the proposed project? (All projects require an NHB ID number & a USFWS IPAC determination.) NHB DataCheck Tool: https://www2.des.state.nh.us/nhb_datacheck/ USFWS IPAC website: https://ecos.fws.gov/ipac/location/index	X	

3.2 Would work occur in any area identified as either "Highest Ranked Habitat in N.H." or "Highest Ranked Habitat in Ecological Region"? (These areas are colored magenta and green, respectively, on NH Fish and Game's map, "2010 Highest Ranked Wildlife Habitat by Ecological Condition.") Map information can be found at: • PDF: www.wildlife.state.nh.us/Wildlife/Wildlife_Plan/highest_ranking_habitat.htm. • Data Mapper: www.granit.unh.edu. • GIS: www.granit.unh.edu/data/downloadfreedata/category/databycategory.html.	X	
3.3 Would the project impact more than 20 acres of an undeveloped land block (upland, wetland/waterway) on the entire project site and/or on an adjoining property(s)?		X
3.4 Does the project propose more than a 10-lot residential subdivision, or a commercial or industrial development?		X
3.5 Are stream crossings designed in accordance with the GC 21?	X	
4. Flooding/Floodplain Values	Yes	No
4.1 Is the proposed project within the 100-year floodplain of an adjacent river or stream?		X
4.2 If 4.1 is yes, will compensatory flood storage be provided if the project results in a loss of flood storage?		N/A
5. Historic/Archaeological Resources		
For a minimum, minor or major impact project - a copy of the Request for Project Review (RPR) Form (www.nh.gov/nhdhr/review) with your DES file number shall be sent to the NH Division of Historical Resources as required on Page 11 GC 8(d) of the GP document**		N/A

*Although this checklist utilizes state information, its submittal to the Corps is a Federal requirement.
** If your project is not within Federal jurisdiction, coordination with NH DHR is not required under Federal law.

Newmarket, 2019-01909

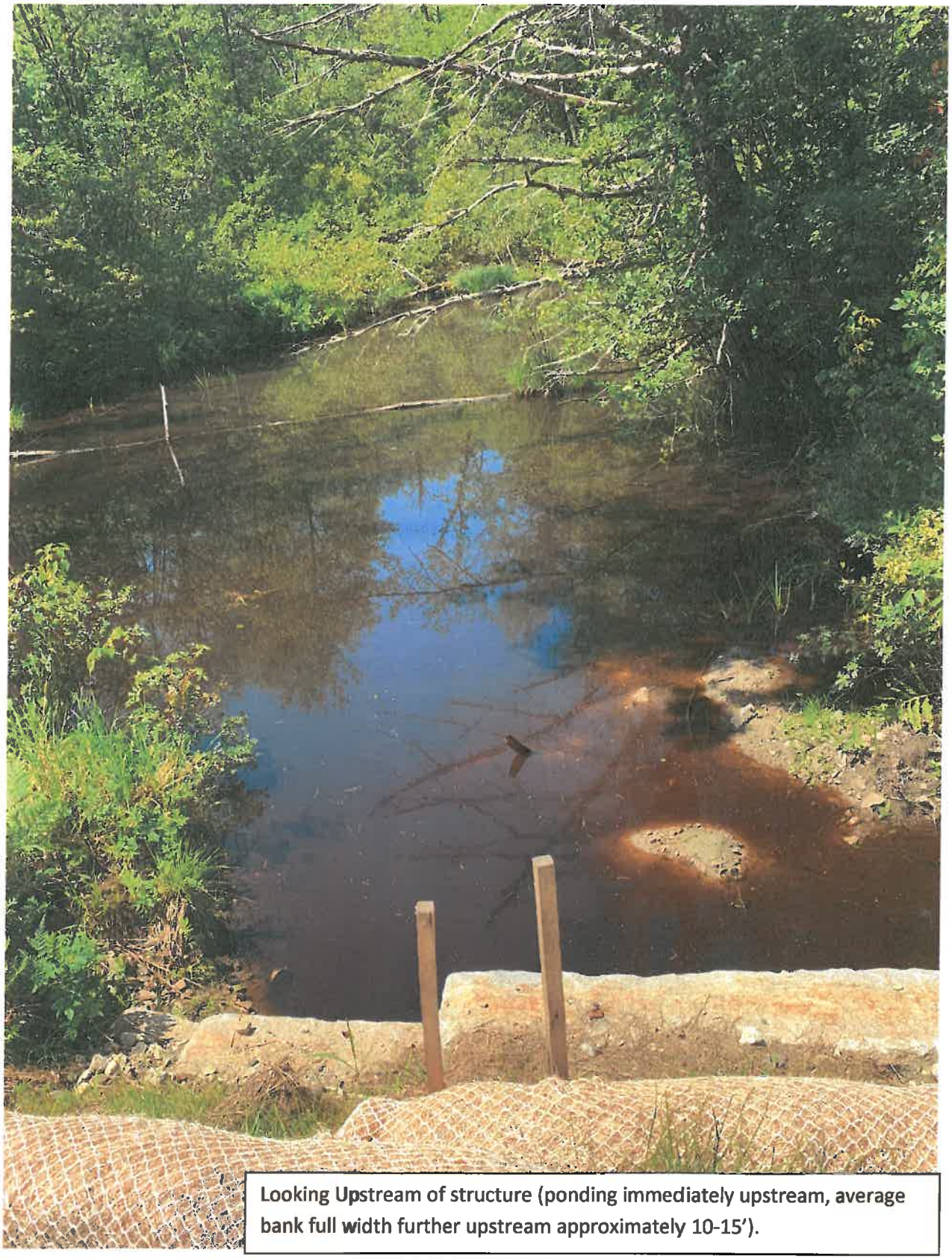
Construction Sequence

1. Install BMP perimeter controls prior to construction.
2. Established alternating 1 way traffic.
3. Remove 48" CMP on inlet.
4. Remove clogged debris.
5. Install 24" HDPE to match in with existing 24" structure.
6. Construct Granite Block Headwall.
7. Re-establish roadway embankment behind the headwall.
8. Re-vegetate with seed and place second row of silt sock.
9. Restore traffic to both lanes.

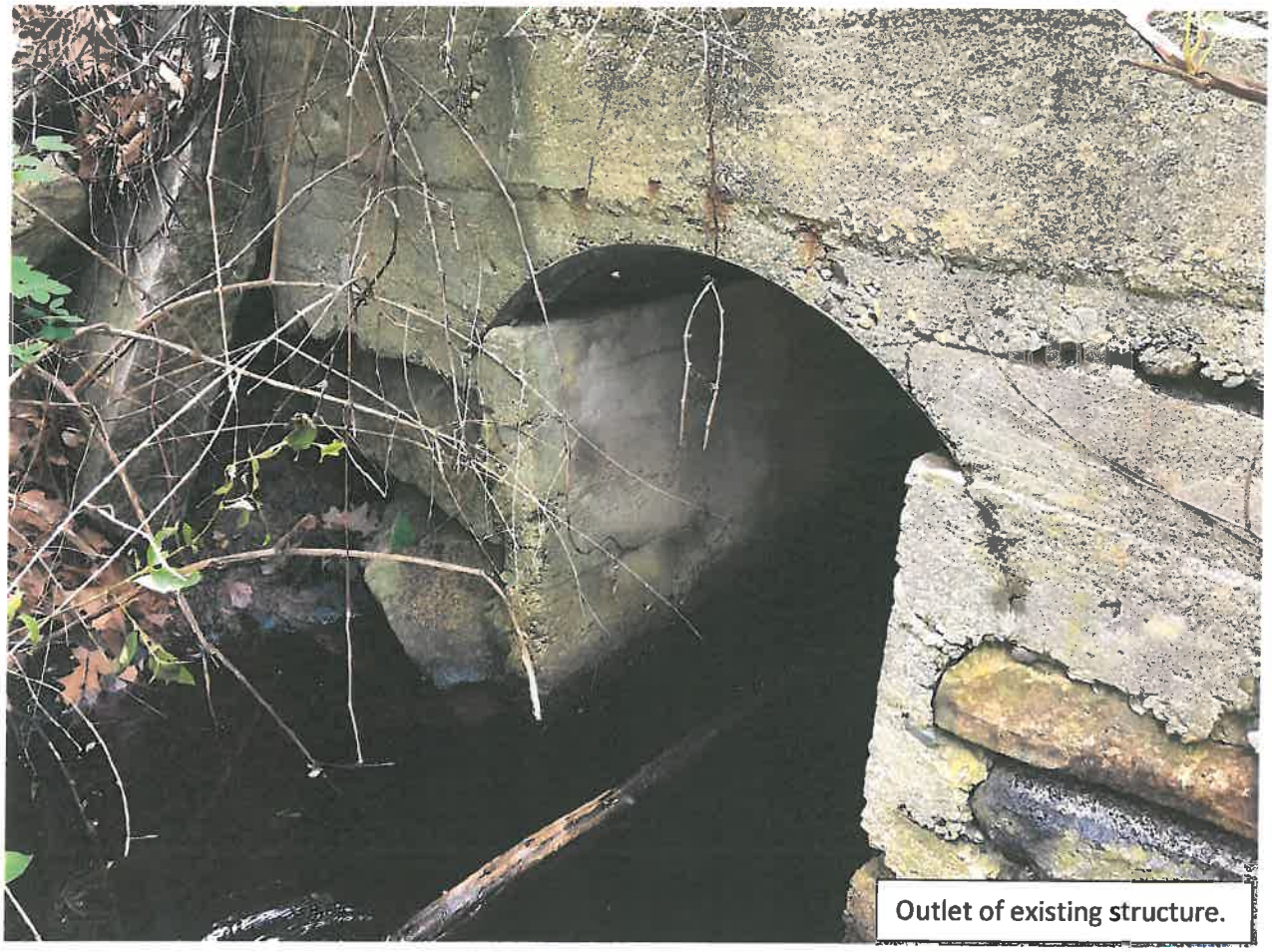
New Inlet - 24" HDPE with Granit Block Headwall.

BMP's protecting new inlet.

Inlet 24" HDPE and New headwall.

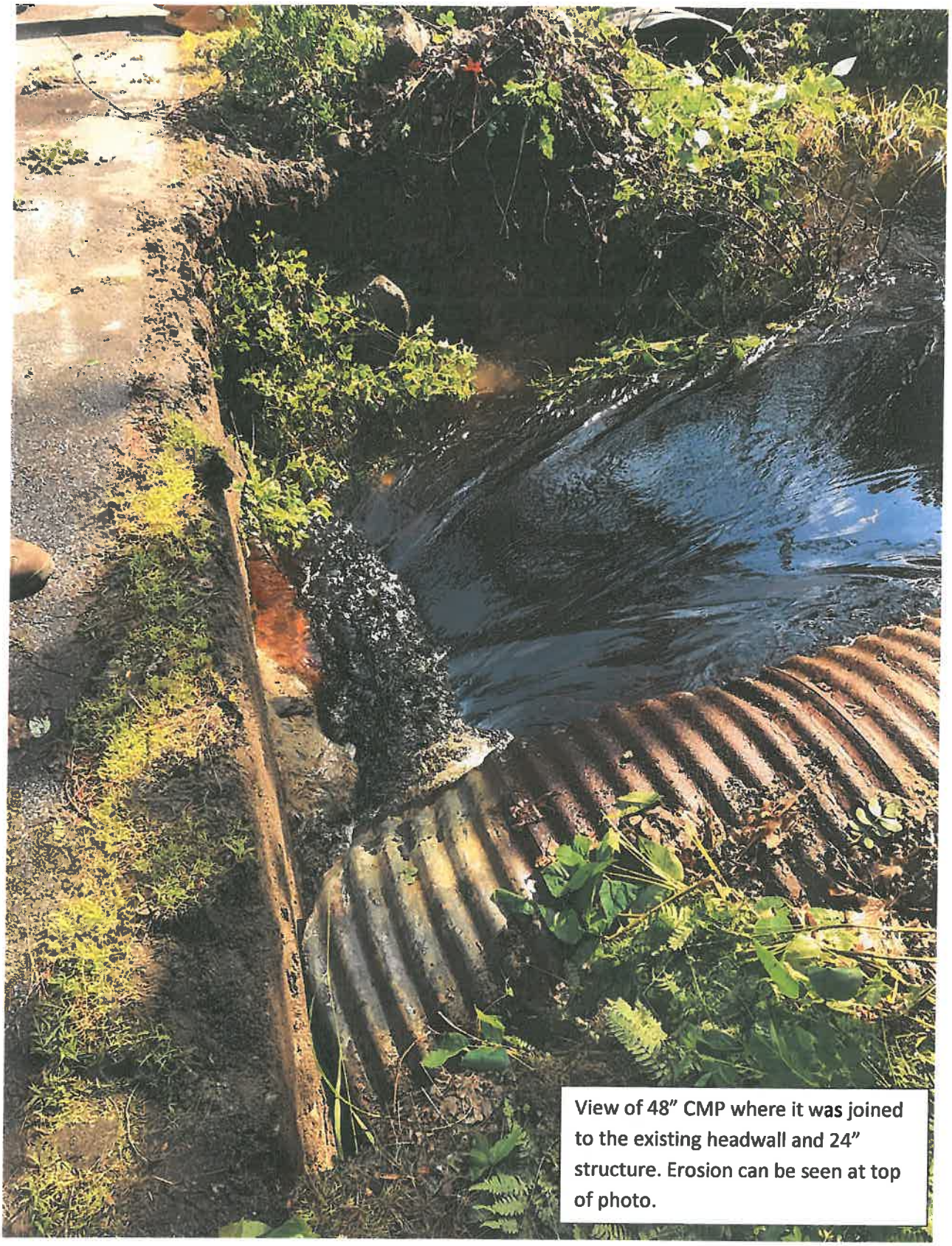


Looking Upstream of structure (ponding immediately upstream, average bank full width further upstream approximately 10-15').



Outlet of existing structure.

From outlet looking upstream within pipe to the location where the 48" SMP was joined to the existing 24" structure. Clog is visible.

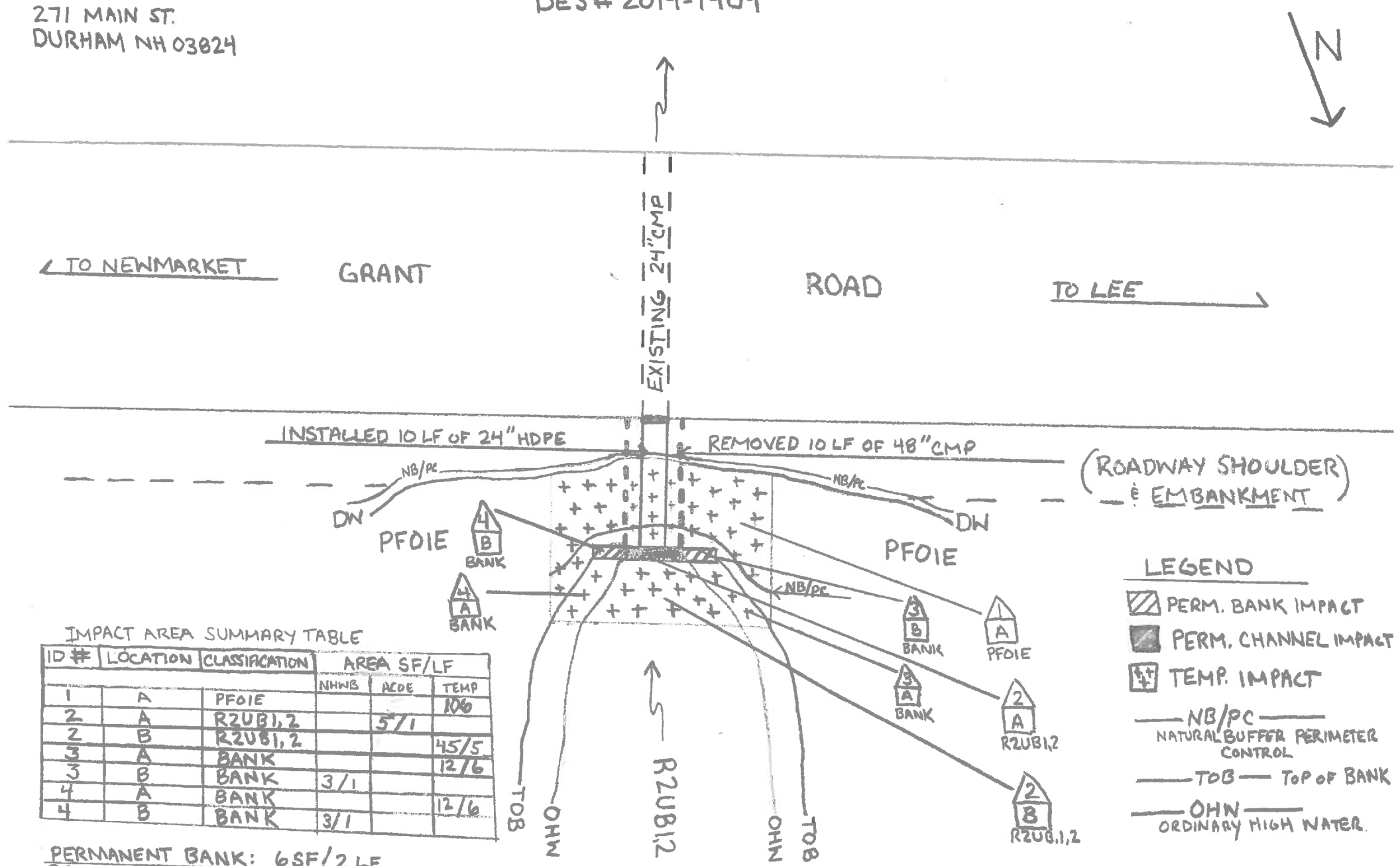


View of 48" CMP where it was joined to the existing headwall and 24" structure. Erosion can be seen at top of photo.

Image of the 48" pipe and debris being removed to restore flow.

RALPH SANDERS
NHDOT DIST. 6
271 MAIN ST.
DURHAM NH 03824

NEWMARKET M609
DES # 2019-1909



IMPACT AREA SUMMARY TABLE

ID #	LOCATION	CLASSIFICATION	AREA SF/LF		
			NHWB	ACOE	TEMP
1	A	PFOIE			106
2	A	R2UB1,2		5/1	
2	B	R2UB1,2			45/5
3	A	BANK			12/6
3	B	BANK	3/1		
4	A	BANK			12/6
4	B	BANK	3/1		

PERMANENT BANK: 6 SF / 2 LF
PERMANENT CHANNEL: 5 SF / 1 LF
TEMPORARY BANK: 24 SF / 12 LF
TEMPORARY CHANNEL: 45 SF / 5 LF
TEMPORARY WETLAND 106 SF

TOTAL PERMANENT: 11 SF

TOTAL TEMPORARY: 175 SF
GRAND TOTAL: 186 SF

SCALE: 1" = 10'

10'

MATT URBAN
DATE: 10-21-2019